

# Using Visualizations to Analyze Workspace Activity and Discern Software Project Evolution

Roger M. Ripley, Anita Sarma, and André van der Hoek

Institute for Software Research  
University of California, Irvine  
Irvine, CA 92697-3425  
{rripley,asarma,andre}@ics.uci.edu  
ISR Technical Report # UCI-ISR-06-1  
January 2006

**Abstract.** Real-time awareness of other developers' activities is gaining acceptance as a complementary strategy to traditional SCM (software configuration management) locking and branching. Thus far, this type of awareness—including our work—has focused only on *individual* developers, with information regarding individual artifacts provided in a contextualized visualization. Here, we build upon our prior work but take a broader perspective: visualization and exploration of workspace activity and evolution on a *project-wide* basis. We believe this visualization will help not only developers, who can benefit from this high level view by understanding how their work relates, but, more importantly, *managers*, who now have a comprehensive view of all project activities, allowing them to intelligently steer development and adjust task assignments. Another interesting aspect of our work is that we can visualize the evolution of workspaces—and the emergent project evolution—either live or *post mortem*: since our tool stores all the workspaces' events, we can replay, stop, rewind, and visually inspect the effort at any given point in time to find trends, problems, and other patterns of interest.